Transport Cost Study; and Unbundled Local Switching Centrex Like Features -- Analog. Similarly, OCC Staff fails to document this 2% fallout value.

Testimony -- OCC Staff (Krafcik) had concerns with SWBT's nonrecurring studies: (i) instructions given to the study participants were not forward looking; (ii) time estimates came only from one person and there were no time and motion studies conducted, or a panel of experts to provide multiple viewpoints; and (iii) SWBT did not indicate that it took any other efforts to verify the activity estimates provided. Rebuttal -- These concerns are unjustified. Each cost analyst participates in a product team for the service under study and that product team is made up of all the individuals responsible for implementing and managing the UNE. All participants have the same common understanding before cost study assumptions are made. Forward looking assumptions regarding the type of systems used and operating practices would have been considered if applicable data were available. Forward looking does not have to assume some system or operating practice that could or should be used, it can be the existing system and operating practices which SWBT assumes in its nonrecurring cost studies. SWBT cannot provide nonrecurring activities via systems that are not used in its own network -- an assumption both AT&T and Mr. Krafcik use in their 2% recommendation. SWBT is obligated to unbundle its current network and determine the forward looking cost of that network, which it has done in its nonrecurring studies. Contrary to OCC Staff generalizations, SWBT's nonrecurring time estimates were based on a variety of data (e.g., call activity reports, field personnel surveys, and other empirical Oklahoma-based sources). Mr. Krafcik incorrectly recommended averaging SWBT's times with AT&T's times, in cases where they differ by 70% or more. SWBT's time estimates were based on assumptions and specific knowledge of its own operations and the time it takes to perform these operations. They were validated by cost analysis comparing the times to prior cost studies and services with similar assumptions. AT&T's estimates were provided, without any support, by an undefined "national team."

Testimony -- OCC Staff claims "that each party has a natural incentive to provide either a high or low activity time estimate." Rebuttal -- SWBT does not have such an incentive with regard to its time estimates. Many time estimates for the UNEs were based on data provided for SWBT's retail services. Most of these retail services are competitive, so it would not benefit SWBT to provide high time estimates. The same principal applies to the UNE time estimates.

A. UNE Manual Service Order Cost Study

Testimony -- AT&T criticizes SWBT's Manual UNE Service Order Cost study for using excessive "time" estimates. Rebuttal -- The manual cost is applicable to all service orders not submitted by an electronic delivery to the LSC (e.g., fax or overnight mail), where its service representative must validate the order and then type the order into SORD. It also applies to UNEs where there is no mechanized process for entering orders. Not all ordering is electronic because only limited services meet industry standards and have an electronic order delivery process. The UNE Manual Service Order Cost Study includes the following activities, which justify the times reported: SWBT service representative receives Local Service Request ("LSR"), logs it in, reviews requested requirements, validates data, inputs applicable data into appropriate fields, and manually confirms order entry. In addition to these activities reflected in the cost study, there are other activities performed which are not reflected but also

support the times reported. These activities include rectifying incomplete or erroneous data or handling maintenance requirements. All SWBT's OSS will be available and will be used in provisioning UNE orders. In the AT&T 2nd arbitration (PUD 175), the Commission ruled that SWBT is under no obligation to create OSS which it does not currently have in place for AT&T or other CLECs. The types of OSS flow through functionality assumed by AT&T do not exist in the SWBT network or in its UNE inventory. The time estimates used in the UNE Manual Service Order Cost Study were estimated by subject matter experts ("SMEs") providing the service order methods and service order format to the LSC. Ms. Smith independently validated the time in the study based on conversations with service representatives and first level managers at the LSC.

Testimony -- AT&T assumed a 2% fallout for the simple and the complex services identified in SWBT's UNE Manual Service Order Cost study. Rebuttal -- According to AT&T witness Segura, the 2% fallout should not apply to the complex services. Thus, AT&T incorrectly applied the 2% fallout in the study. Complex SWBT retail services do not flow through at this high rate and are not expected to do so in the near future, if at all. The 2% fallout is also unrealistically low for the simple UNE Manual Service Order Cost Study.

Testimony -- OCC Staff (Krafcik) states that it is appropriate to assume a mechanized ordering process for all network elements. Rebuttal -- This assumption is wrong. SWBT is in the process of developing mechanized order generators, which will accept an order electronically from AT&T. However, all UNE orders cannot be accepted and flowed through electronically. This is also true for a number of SWBT's retail services that are so complex they must be entered manually for the service order process (e.g., DS-1). It is reasonable to expect that the majority of orders for UNEs also will be delivered manually. Furthermore, there are existing CLECs which find it more cost effective to process their orders manually.

Testimony -- Both AT&T and OCC Staff recommend eliminating the typing time for the manual service order. Rebuttal -- Both AT&T and Mr. Krafcik are under the impression that the service representative at the LSC conducts the validation and the typing at the same time. This is not true.

B. UNE Mechanized Service Order Cost

Testimony -- AT&T criticizes SWBT's $5.00 mechanized service order charge and recommends OCC adoption of its own study instead. Rebuttal -- At the time SWBT submitted cost studies in this case, there were no methods in place to process a mechanized service order for UNEs. Nor were sufficient data available to develop a cost study. More reliable data are needed before an acceptable cost study should be done. AT&T's substitute cost study is unacceptable. As detailed in SWBT witness Auinbauh's testimony, AT&T's mechanized service order costs ($1.50 and $2.16) are based on a major assumption of a 2% fall out rate applied to all UNEs for the time needed to validate and type a manual service order. The 2% fall out is unrealistically low, based on the high current fallout of orders and the number of repeat errors submitted on the mechanized order. SWBT has provided documentation that the fall out rate is higher than 2% (i.e., evidence from LSC tracking orders and fallout to meet staffing requirements). In addition, data from IXC access services provide useful comparison data, which support SWBT's higher fall out rate. The fall out rate will not necessarily

decrease as the CLEC service representatives gain more experience. Even though SWBT cannot provide a specific cost study for a mechanized UNE service order, based on the manual study current fallout and the amount of time currently spent to process a manual service, the cost can be estimated to be above $5.00. This is because the fall out will require manual intervention. However, electronic delivery edits lessen the errors that might otherwise occur. Thus, manual intervention should be less, but still required and substantial. Even for electronic delivery, service reps will be required to manually enter the order (cost of typing, about 30%, of the total order cost) irrespective of fall out orders.

C. BRI Port and Port Features Nonrecurring Cost Study

Testimony -- AT&T included cost of only a 2% fallout for RCMAC (Recent Change Memory Administration Center, which is responsible for inputting translations to the switch for lines) time in both the BRI Port study and the BRI features study. Mr. Krafcik also applied the 2% fallout to the BRI Nonrecurring Features Cost Study. Rebuttal -- The changes AT&T made to the nonrecurring study for the BRI Port were unnecessary because this study was revised to remove all nonrecurring costs associated with the port. AT&T and OCC Staff relied upon the 2% fallout assumptions supported by Mr. Segura's testimony, but he stated that the 2% fallout only applied to residential POTS services. This fallout does not apply at all because the BRI features do not have flow through and incur the costs of a manual process.

D. PRI Port and PRI Port Features Nonrecurring Cost Study

Testimony -- In the PRI Port nonrecurring study, AT&T increased the hours for the translations preparation ("TXC") for both first and additional, but it removed the time for translations implementation ("SCC"). In the PRI Port Features Cost Study, AT&T used the same TXC time but reduced the SCC time by half. Mr. Krafcik recommends using non-craft wage rate and reduced time. He also recommends applying the 2% fallout. Rebuttal -- This reduction of SCC time for the PRI Port Features Cost Study is inconsistent. AT&T does not provide adequate justification for this different treatment. SWBT's approach, however, is fully supported. Time estimates were provided by the SMEs who actually supervise and do translations work. The TXC and SCC groups are both needed to ensure that the order is taken and entered correctly. The 2% fallout should not apply to PRI based on Mr. Segura's explanation (i.e., POTS only) and based on the fact that PRI does not flow through at all for SWBT's retail customers.

E. Analog Line Side Port Nonrecurring Cost Study

Testimony -- AT&T increased the minutes per order but applied a 2% fallout for manual intervention versus SWBT's fallout percentage. Mr. Krafcik supports SWBT's labor time, but applies the 2% fallout percentage. Rebuttal -- Again AT&T and OCC Staff applied the 2% fallout uniformly to every study, whether or not there actually is flow through once the order is entered. In this case, the majority of SWBT's orders for an analog line do flow through, but not at the high level AT&T or OCC Staff suggests.

F. DID Nonrecurring Cost Study

Testimony -- AT&T reduced the times for the TXC, SCC, Trunking and RCMAC for the 5ESS and then only included times for the TXC and SCC in computing the costs for the DMS100. The times are adjusted by 2% fallout. Mr. Krafcik recommends averaging the activity time between the amount proffered by SWBT and by AT&T, zeroing out the TXC management activity and applying the 2% fallout. Rebuttal -- AT&T's different treatment of times for the 5ESS and for the DMS100 switches is not justified or documented. It inconsistently has eliminated work groups and removed some times altogether. The 2% fallout is inappropriate for this study because there is currently no flow through for SWBT's DID service and none is expected for the UNE. The complexity of the service always requires manual intervention in ordering and provisioning.

G. 2-Wire Analog Trunk Port Nonrecurring Cost Study

Testimony -- The AT&T 2-Wire Analog Trunk Port Nonrecurring Cost Study used different switch weightings (used to weight the investments between 5ESS and DMS100). Mr. Krafcik recommends removing the TXC time, averaging the times of SWBT and AT&T, and applying the 2% fallout. Rebuttal -- AT&T's switch weightings are from the wrong state. All pages in its study had "Texas" headings even though the Oklahoma switch weightings were part of the documentation provided. The "Other Taxes" amount was also input incorrectly. These revisions are incorrect because the TXC time is needed to successfully complete the translation. Averaging the times is totally inappropriate because SWBT's times are based on actual SWBT activity, not on a "national team" estimate. The 2% fallout is incorrect because this service does not flow through at this rate.

H. Digital DS1 Trunk Port Nonrecurring Cost Study

Testimony -- AT&T's Digital DS1 Trunk Port Nonrecurring Cost Study used different switch weightings. Mr. Krafcik recommends zeroing out the procurement time and applying the 2% fallout. Rebuttal -- AT&T once again used the switch weightings from Texas even though SWBT provided the Oklahoma switch weightings in the backup documentation. AT&T assumed the only department involved in providing this service would be the Circuit Provisioning Center, and then only when the order fell out, again at the 2% rate. The complexity of the service requires manual intervention in ordering and provisioning from other departments, which SWBT included in its study. The 2% fallout again is incorrect because this service does not flow through at this rate.

I. Unbundled Local Switching Centrex Like Features - ISDN and Analog Nonrecurring Cost Study

Testimony -- AT&T used the SWBT cost study for ISDN and Analog nonrecurring costs filed on July 14, 1997, to revise its inputs. It reduced the time estimates, revised the labor rates, and applied the 2% fallout rate to each element. Mr. Krafcik recommends removing the network sales support and applying the 2% fallout to all features. Rebuttal -- This July 14, 1997, study was revised and refiled in Ms. Smith's November 29, 1997, supplemental testimony. This revision clearly was explained in Ms. Smith's December 3, 1997, deposition. AT&T reduced the time estimates based upon the wrong study for all the inputs. Ms. Smith is unclear about the labor rates used in this study because the

calculations do not match the results. On the results sheet, there are features which are not offered in Oklahoma. Since this problem has occurred in other nonrecurring studies discussed herein, AT&T erroneously must have used the studies for a different state and simply substituted Oklahoma labor rates. The two state studies are, of course, different, not only because of the labor rates, but also because they apply different assumptions. AT&T reduced the TXC and SCC times significantly for all features except Distinctive Ringing and Call Pickup. There was no documentation for the time estimates included in the AT&T study. Mr. Krafcik incorrectly assumed that the network sales support is a retail cost. SWBT will incur wholesale marketing expenses associated with providing UNEs to CLECs and this expense should be included in the cost of service. The 2% fallout is inappropriate because Centrex service currently does not flow through as AT&T assumes.

J. SS7 Nonrecurring Cost Studies

Testimony -- AT&T revised the nonrecurring STP Port study by reducing the translations time for the STP port termination to 1 hour. It removed the disconnect time for the STP port and the translations time for the signaling point code addition. For the STP Port, Mr. Krafcik recommends removing the External Relations time from the studies and averaging the times between AT&T's and SWBT's studies. For the STP link nonrecurring costs, he recommends applying the 2% fallout. Rebuttal -- No rationale was provided by AT&T for reducing the time. Mr. Krafcik's recommendation to average the time is invalid because SWBT's time is based on actual experience, whereas AT&T's time estimate is based on an undefined "national team." The 2% fallout never would apply to these nonrecurring activities because they always are conducted manually.

K. Time and Materials and Maintenance of Service (Cause 442 only)

Testimony -- For the Maintenance of Service study, AT&T removes travel time and close out time. AT&T also assumes a totally mechanized process for all trouble reporting. Thus, it removes customer services representative labor hours. AT&T makes the same revisions to the Time and Materials study. OCC Staff recommended removing the computer time, modifying the customer service time with the 2% fall out, and removing the premium time expenses from the basic labor rate. Rebuttal -- All the proposed changes are unacceptable, except revising the labor rate to remove premium time and revising the travel time for Time and Materials. Under the Maintenance of Service scenario, the technician's time does not begin until work is started at the end user's premises. Travel costs are appropriately included in the first half hour. Under time and materials, the customer is billed for time starting when the technician picks up the trouble report. In this case, travel time should not be included in the first half hour. Regarding the close out time, the technician is not "on the clock" when the ticket is closed out and this cost is appropriately reflected in the first half hour. The mechanized process assumption and the 2% fall out is inappropriate because UNE trouble reporting will not have 98% flow through. SWBT assumed the same fall out in the study as it does for its own customers.

VIII. FORWARD LOOKING COMMON COSTS

Testimony -- AT&T witness Rhinehart proposes a number of reductions to the common cost allocator proposed by SWBT. These reductions include the operator

services accounts being avoided at a 100% rate instead of the OCC -- ordered 10% rate. Rebuttal -- As Dr. Lehman demonstrates in his rebuttal testimony, Mr. Rhinehart's revisions are based on speculation and false assumption. SWBT accounted for the exclusion of retail avoided costs in its common cost study. This exclusion was based on the FCC's presumption of avoided costs, which removed the retail portion of the accounts in the following percentages. Also included are the assumptions for the avoided cost study for resale approved by the OCC.

	SWBT	OCC
Account 6611 Product Management	90%	25%
Account 6612 Sales	90%	90%
Account 6613 Advertising	90%	70%
Account 6621 Call Completion	100%	10%
Account 6622 Number Services	100%	10%
Account 6623 Customer Services	90%	90%

Mr. Rhinehart assumed the avoided cost percentages ordered by the OCC to develop the resale avoided cost discount percentage, with one exception. He assumed the operator services accounts 6621 and 6622 to be avoided at 100% instead of the 10% ordered by the OCC. Mr. Rhinehart contended that the Commission assumed the 10% avoided for the operator services accounts because there was a continued need for white pages production. He also stated that the interconnection agreements include separate and distinct prices to be paid for operator services and white pages production, so the costs cannot be viewed as common costs and they should be removed from the computations. He then replaced the Commission approved 10% with an assumption avoided for the 6621 and 6622 accounts. These assumptions are not justified or consistent with the OCC's rulings. If the OCC order is used to calculate the operator services costs, there are costs that are considered common in addition to white pages (e.g., DA calls). Also Mr. Klick has removed a number of volume insensitive expenses from the operator services studies, which are booked to accounts 6621 and 6622. AT&T now improperly has removed these expenses from both the operator services studies and the common cost study.

Testimony -- Mr. Rhinehart implies that SWBT's forward looking common costs include service order costs that are being charged separately in this case. Rebuttal -- Mr. Rhinehart is wrong. It is true that service order expenses are booked to Account 6623 Customer Services, but the expenses in the forward looking common costs study are based on 1995 data, before any expenses were incurred for wholesale expenses attributable to CLECs. Wholesale service order expenses were included in account 6623 in 1995, but these service order expenses are for IXCs ordering access services from SWBT. In addition to these expenses, SWBT will incur, and is incurring, additional expenses for the service representatives in the LSC to take orders from the CLECs. Therefore, SWBT appropriately has reflected the correct amount of expenses for this account.

In her direct testimony in PUD 97-442, Ms. Smith explained the process and proper methodology to develop *costs* for interconnection services. She also explained the cost studies which were used as the basis for *pricing* these

interconnection services. *Although many of the cost studies Ms. Smith presents here are different from those presented in Cause No. PUD 97-213, the cost study methodologies she described in PUD-442 are the same as those used there.*

INTERCONNECTION SERVICE COST STUDIES

Ms. Smith's testimony described the following specific cost studies for pricing interconnection services:

- White Pages For Others By Geographic Groups Forward Looking LRIC
- Directory Assistance Call Completion
- Directory Assistance Listing LRIC
- Local Service Provider Emergency Service Contact for Non-Published Service Forward Looking LRIC
- Branding for Resellers
- Branding for Facility Based Providers
- External Rates/Reference - Resellers Forward Looking LRIC
- External Rates/Reference - Facility Based Providers Forward Looking LRIC
- Interim Number Portability
- Local Switching
- Tandem Switching Usage
- Unbundled Common Transport
- Operator Work Seconds
- Local and IntraLATA Operator Assistance Fully Automated Call
- Directory Assistance
- Forward-Looking Common Costs

Attached as Exhibit A to her testimony was a chart summarizing these cost studies sponsored by Ms. Smith.

Ms. Smith also adopted the direct testimony of Linda L. Robey previously filed in this cause. The Robey testimony that Ms. Smith adopted discussed the recurring and nonrecurring costs associated with (1) 911 Emergency Number System Interconnection, (2) Customer Change Charges, and (3) Operational Support Systems. In particular, this testimony covered the forward-looking, long run incremental cost studies for these elements. The methods employed in conducting

these cost studies were the same as those previously described in Ms. Smith's testimony.

911 EMERGENCY NUMBER SYSTEM INTERCONNECTION

As described by Mr. Deere, SWBT's 911 system serves various public service agencies that answer emergency calls. Ms. Robey presented a series of cost studies to support the forward-looking LRIC of interconnection by CLECs with this system. A design depicting the forward-looking network components necessary for the 911 system was created and the cost relating to its components (such as the computers, databases, multiplexers and switching equipment) was developed. Costs also were developed to match the various 911 feature packages used by SWBT in the particular communities involved. Those features, described in detail by Mr. Deere's testimony, are:

(1) Automatic Number Identification (identifies to the answering public service agency the number calling 911);

(2) Selective Routing (used where necessary to ensure that the proper public service agency receives a 911 call);

(3) Automatic Location Identification (identifies to the answering public service agency the location of the number calling 911); and

(4) various combinations of these features.

A separate study was conducted to identify non-recurring costs relating to the feature packages used in the system. These are primarily labor costs in setting up the interconnection.

Because SWBT's emergency network system covers a four state area, the costs were weighted by state so that only the Oklahoma costs were included in the final costs developed for this proceeding.

CUSTOMER CHANGE CHARGES

This study identified the costs for a manual processing of converting a SWBT customer to a CLEC's resale customer. At the present time, sufficient data do not exist to conduct a study of processing these conversions electronically. The study represents the cost for SWBT manually to receive and process CLEC orders and to enter them into SWBT's systems. Two types of conversions were included in the study. A "simple" conversion involves converting a resale customer with traditional exchange service. A "complex" conversion involves converting a resale customer with a complex service, such as PLEXAR. The costs included in these studies are primarily the labor activities needed to process the appropriate orders for either simple or complex services.

OPERATION SUPPORT SYSTEMS (OSS)

This study identified the costs associated with providing access to SWBT's OSS by CLECs. *This cost study is identical to that presented for the same purpose in PUD-213 and summarized in Ms. Smith's testimony.*

Attached as Exhibit B to Ms. Smith's testimony was a chart summarizing these and other cost studies sponsored by Ms. Robey.

Summary of Cross-Examination of Barbara A. Smith

Ms. Smith of SWBT sponsored many of the cost studies filed by SWBT in these dockets. Ms. Smith contended that these cost studies comply with the Oklahoma Long Run Incremental Cost rule that is in place in Oklahoma and comply with the FCC's definition and interpretation of Total Element Long Run Incremental Cost ("TELRIC") as set forth in the FCC's First Report and Order in Docket 96-98. A properly conducted LRIC cost study examines costs using forward-looking technology in the study. Ms. Smith acknowledged that the most efficient, least cost technology may or may not be what is deployed in SWBT's network today. Ms. Smith acknowledged that, with the exception of 1A switches and some ISDN services for which she assumed 100% 5ESS technology, she assumed in her cost studies that the telephone network would be configured as it currently exists in SWBT's network. In other words, she assumed that SWBT's existing network would represent the forward looking most efficient least cost network that should be included in a LRIC cost study. In making this assumption, she relied upon SWBT's network organization; she did not conduct any independent analysis of whether more efficient or loess costly equipment was available in the market today.

All of the cost studies she is sponsoring are based upon demand in the network as it existed in either 1995 or 1996. She did not determine demand as it existed in 1997 and, with the exception of the switch discount, she has not incorporated future demand into her cost of studies. More specifically, she has not incorporated any demand forecasts performed by SWBT into her cost studies.

The local switching studies are based upon the Switching Cost Information System ("SCIS") model. Certain inputs are entered into the SCIS model, which develops the total switch investment for the 5ESS and the DMS switches. In order to develop a switch cost on a Minute of Use ("MOU") basis, she took the total switch investment from SCIS, added feature hardware investments, subtract the port investment and divided by the minutes of use.

One of the most important inputs in the SCIS model is the switch discount. A switch discount was entered for both the Lucent and Nortel switches. The Lucent discount was derived from a contract that was executed in 1995 and which is still current today. Under this contract, SWBT receives a 70 percent initial placement discount and a 20% system discount which represents an effective discount of 76% for all Lucent switches. This was not the discount that was entered into SCIS. Rather than using the initial placement discount, Ms. Smith computed a discount that would be entered into SCIS. In making this computation, Ms. Smith assumed that the switch will be grown every two years over the nine years of the switch which she assumed was the average switch life. Thus, to get from the 76% placement discount to the 65.25% used in the SCIS model, the switch was grown assuming 5.1 percent growth over a nine-year interval. The discount applicable to growth lines was added to the initial placement discount and the entire computation was discounted back to the present. Ms. Smith agreed that this was the only place in any of the cost studies she was sponsoring where SWBT included growth in the cost study. For example, in the switching studies, SWBT did not grow the minutes of use over the same nine-year period.

Following its merger with Pac Bell, Southwestern Bell had been engaged in conversations with Lucent and Nortel to execute new contracts for switches. This new contract will cover switches deployed in both Southwestern Bell and Pac Bell territories. Whatever discounts are in the new agreement with the switch vendors, any switches that are purchased by Southwestern Bell in the five or seven-state area for 1998 will be governed by the terms of that new contract. Ms. Smith claimed not to know that the status of the negotiations between SWBT and its switch vendors and claimed not to know the discounts that will apply in this agreement.

The switching cost studies take the total switch investment derived from the SCIS model. That investment does not include the costs associated with feature hardware in the switch. Therefore, feature hardware investment is added to the total switch investment derived from SCIS. To determine the future related hardware investment, Ms. Smith obtained unit prices and quantities for all feature related hardware from SWBT's PICS DCPR organization. The source of the information that was used to determine the feature hardware investment included in the switching cost studies is from the books and records of the company. Ms. Smith also acknowledged that the feature hardware investment is based upon historical costs for that feature related hardware.

Ms. Smith agreed that of the feature related hardware investment, the trunk terminations make up a vast majority of that investment. The trunk terminations investments included in the switching cost studies include tie trunks for Centrex or PLEXAR and private network trunking, many of which are independent revenue producers for SWBT. Because the investments associated with these trunk terminations are included in the switching investments, if a CLEC orders PLEXAR and needs a tie trunk or other trunk termination, because all the features and functionality of Centrex or PLEXAR are included in the switch investment, the tie trunk or trunk termination will be provided at no additional cost. Indeed, all features and functions of the switch including all Plexar and Centrex features will be provided at no additional cost to a requesting CLEC.

Ms. Smith agreed that the unit prices for many of the feature related hardware that were included in the switching investment could have been obtained by using the SCIS/IN model. Ms. Smith admitted that there are no faults with the integrity of the SCIS/IN model. Indeed, she used the SCIS/IN model in some of the studies that she is sponsoring in this docket. Instead of using SCIS/IN to derive these unit prices, she used the much higher historical prices obtained from the PICS-DCPR organization.

The initial investment in the switching cost studies includes what is called a getting started investment which represents the cost to get the switch up and running. Ms. Smith acknowledged that the getting started investment will remain the same whether there is one line in the switch or twenty thousand lines in the switch which make up part of the total cost of this network element. Nevertheless, Ms. Smith allocated all of the getting started investment to the switch and allocated none of that investment to the port.

The investment used in the SCP cost studies is derived from the Common Channel Switching Cost Information System ("CCSCIS") model. STPs come in pairs and Ms. Smith assumed for modeling purposes that only 40% of each STP will be

utilized. In the STP and SCP cost studies, there are also investments associated with A links, B links, C links and D links. In its cost studies for STP's and SCP's, SWBT used a 10.75 percent utilization for A links, 2.75 percent utilization for B links, and 13.8 percent utilization for C and D links. This utilization is multiplied by 40% to determine the effective utilization used in the cost study. For example, the 10.75 percent utilization for the A links, that utilization would be multiplied by 40 percent to come up with an effective utilization of roughly 4 percent.

In the SS7 transport study she used CCSCIS Verson 4.1 to derive the investment number that is used in the cost study number. The same D link utilization factor discussed above was used in this study.

The LIBD validation Query Cost study uses both STPs and SCPs. For purposes of determining the SCP investments associated with LIBD validation queries, SWBT could not use version 4.1 of CCSCIS and had to use an older version of CCSCIS, version 3.9. This was because the particular equipment that is in SWBT's network can not be used through any version of CCSCIS that came out after 3.9. This equipment that is used in the SCP study is 10 years old. The discount used in CCSCIS 3.9 to derive the investments was 18 percent. Ms. Smith acknowledged that discount was based upon the contract that was executed between Southwestern Bell and the vendor some 10 years ago. No effort was made to determine, if she were to go out in the market today and buy that SCP equipment, what the discount would be today.

With respect to the recurring costs included in the OS/DA cost studies, the Operator Services Cost model is the central model to all of those studies. Any changes made to the OSCM study would carry though to all OS/DA studies. Southwestern Bell has established that the administrative fill for a NPX equipment is 95 percent and the administrative fill for the ETMS equipment is 95 percent. Furthermore, the administrative fill for IVS equipment is 85 percent and the administrative fill for SCU equipment is 85 percent. Ms. Smith admitted that the IVS and the SCU equipment that is included in the study was actually purchased in 1990 or 1991. In her studies for operator services, Ms. Smith used actual fill factors and not optimal or administrative fill factors.

The forward looking common cost study that Ms. Smith is sponsoring is based upon 1995 ARMIS data. All expenses captured in the study are historical expenses incurred by Southwestern Bell. There are corporate expenses in other states that are allocated to the State of Oklahoma on some basis. In the beginning of the study, she determined retail and wholesale expenses for SWBT in Oklahoma. In so doing, she took portions of certain of 6600 accounts, allocated some portion of those accounts to retail expense and some portion of those 6600 accounts to wholesale expense. The portions that were chosen to allocate were based upon the FCC allocation as set forth in the FCC's Second Report and Order In Docket 96-98. In the FCC Order, it said 90 percent of certain accounts should be avoidable and 10 percent non-avoidable and 100% of certain accounts should be treated as non-avoidable. She went through each of those accounts and, using the FCC allocation system, calculated the retail and wholesale expenses applicable in Oklahoma. She did not use the avoided cost discount that was ordered by the Oklahoma Commission in any way to come up with the retail and wholesale expenses included in her study.

SWBT's common cost study includes costs that are associated with access, toll and retail services and includes both regulated and non-regulated expenses. The common cost study includes some portion of executive planning expenses that have been allocated to the state of Oklahoma. During 1997 a small amount of the executive and planning expenses may have been spent on the Pac Bell merger.

There are a number of non-recurring charges ("NRC's") that are included in Ms. Smith's cost studies. In deriving these NRC's, she went to a number of subject matter experts to obtain time estimates in connection with the non-recurring activities in the studies. To the extent that the time estimates were the same across different states or the activity was the same regardless of the state in which the activity occurred, she went to these SME's once and obtained a time estimate that was used in all cost studies filed in all the different states in which SWBT operates.

Ms. Robey of SWBT prepared a Service Order Cost study which Ms. Smith is now sponsoring. This cost study applies in a manual environment and not a mechanized environment. The costs included in this cost study do not apply to any mechanized service orders. The costs associated with processing a service order include both labor costs and the costs associated with using SWBT's computer systems (CPU costs). The labor costs included in this study comprise the time that the SWBT representative takes to negotiate and type the order. Thus, the Service Order cost study includes the time for the Southwestern Bell service rep to take an order and looks at it to make sure everything is alright, types the order into the system and the computer costs associated with processing the order through SWBT's OSS systems.

In a mechanized environment, there would be no labor costs associated with all orders which flow through. For flow through orders, the only costs incurred by SWBT are the CPU costs associated with using SWBT's computer systems. Once a mechanized order generator ("MOG") is created, some portion of the orders will flow through electronically. A mechanized order generator is an electronic interface which will take an electronic service order submitted by a CLEC and electronically enter that order into SWBT's SORD system where the order will flow into SWBT's various OSS systems for further processing. Where a MOG is created, there is no need for the SWBT service representative to either type or negotiate the order and no manual intervention of SWBT will be required at all unless the order falls out for some reason. Those portions of the orders that flow through electronically, the service order study filed by SWBT would not apply. SWBT has not conducted a study to capture the TELRIC costs associated with an electronic service order. Nevertheless, SWBT has proposed and agreed in other jurisdictions to a $5 electronic service order charge. That $5 service order charge was not based upon a cost study that's been filed in this docket. If Ms. Smith were doing an electronic service order cost study, the best way to determine the costs would be to determine the percentage of fallout to which labor costs would apply and add to that your CUP costs.

In a resale environment there has not been a cost study prepared which captures the costs associated with converting a customer from Southwestern Bell to a CLEC on an electronic basis. The LSP simple conversion study that was filed assumes a manual process.

Ms. Smith acknowledged that some CLEC's such as AT&T have been provided access to SWBT's consumer EASE system to place orders electronically for resold services. Those CLEC's with access to consumer EASE will be able to process orders electronically without SWBT's involvement (unless fallout occurs). Indeed, even in a fallout situation, the order will be returned to the CLEC service representative for further processing. Thus, some percentage of fallout orders will be fixed without any manual intervention of SWBT. SWBT itself achieves 99% flow-through or 1% fallout on its orders processed through EASE.

12. Barry A. Moore

In his direct testimony in Pud 97-213, SWBT witness Barry A. Moore testified that he is Area Manager for Product Cost Development and Analysis for SWBT. In his testimony, he discussed the results of cost studies for those unbundled network elements (UNEs) associated with local loops, cross-connects, and dedicated transport. Specifically, he described the bases for these cost studies, the data sources and methodology used, and why the results reflect the minimum costs of providing those elements on a forward-looking basis.

The results of these studies are based on *Oklahoma-specific* data and facility records. In calculating the costs for UNEs, the following principles were utilized:

- Costs are based on the incumbent LEC's existing wire center locations and local network distribution routes, and employ the most efficient technology available to the network;
- Costs are attributed on a cost-causative basis. This means that costs are attributed to a specific network element when those costs are incurred as a direct result of providing that network element;
- Forward-looking incremental costs are utilized; and
- All costs associated with the UNE are included in the incremental cost.

The following forward-looking incremental cost studies were conducted to support the associated UNEs:

- Unbundled Loop Cost Study. This study identifies the forward-looking long run incremental costs (LRIC) of providing specific unbundled local loop UNEs. A local loop provides a transmission path from the SWBT central office to the customer's premises. In calculating loop investments, SWBT estimated the plant investment required to satisfy the entire demand for loops in Oklahoma. Today, there are approximately 1.5 million basic loops in service. Therefore, SWBT's cost models had to reflect the actual physical characteristics of the network, which is a forward-looking, efficient design of local facilities. SWBT utilized loop lengths as determined by wire center locations, facility routes, and the locations of customer premises. It determined how these access lines would

be provisioned, reflecting current construction costs, forward-looking fiber, and other current technologies and underground outside plant. Loop lengths were determined by random samples of actual loops in rural, suburban, and urban wire centers.

- Decibel (dB) Loss Conditioning Cost Study. This study identifies the cost to condition a loop to achieve a lower dB loss level, lower than that provided by an 8 dB loss loop. The investments required for dB loss conditioning are provided by SWBT network personnel and involve the price associated with conditioning equipment placed at the customer's premises.

- Network Interface Device Cost Study. This study identifies the forward-looking LRIC for rearrangement activities at the point of demarcation or interconnection between customer inside wiring and SWBT's loop facilities at the customer's premises. The costs associated with the resources required for NID rearrangements are labor oriented, and are, therefore, nonrecurring in nature. This study is not associated with the UNE loop studies which include the cost for NID installation and rearrangements for SWBT's UNE loops.

- Cross-Connect Cost Study. This study identifies the forward-looking LRIC for provisioning unbundled cross-connect arrangements from SWBT's Main Distribution Frame (MDF) to a facility designated by the local service provider (LSP) (*e.g.*, central office collocation arrangement or SWBT-provided multiplexer). It also identifies the cost for provisioning unbundled cross-connect arrangements to Digital Cross-Connect Systems (DCS) and switch ports. The investments associated with the unbundled loop cross-connects include the various equipment components required to provide the specific cross-connect. Mr. Moore also filed Supplemental Direct Testimony in this cause to present a recent cost study conducted to specify UNE costs for cross-connects between switch ports and facilities designated by the LSP such as collocation facilities, multiplexers or DCS.

- Dedicated Transport Cost Study. This study identifies the forward-looking LRICs to provision UNE unbundled entrance and interoffice facilities for dedicated transport. "Entrance facility" components include the investment to extend electrical or optical connections from the serving central office to the LSP's location. These investments are calculated much the same as those for the local loop: distance multiplied by the investment per foot, plus any necessary additional equipment. "Dedicated interoffice transport facility" components include the investment to extend facilities and equipment between central offices in order to send electrical or optical signals. The investment necessary for dedicated interoffice transport is calculated by

determining the fixed equipment costs at the central offices and the interoffice facility (or "line haul") costs between offices. The Dedicated Transport Cost Study also includes costing for UNE multiplexing components, transport cross-connects (to extend transport signals for SWBT's interoffice network) and digital cross-connect systems (or "DCS"). The costs for these additional components represents the respective construction costs for each.

- SS7 Link Cost Study. This study identifies the forward-looking LRIC for provisioning UNE SS7 links from SWBT's Signal Transfer Point (a packet switching device providing signaling distribution for the network) to a local service provider's collocation arrangement or to a SWBT-provided unbundled transport element. The investments for these elements represent the construction costs for the particular equipment resources required.

To perform the foregoing studies, recurring and non-recurring costs had to be determined:

- Recurring costs were developed by identifying the investment necessary to provide the functionality for the element studied. The recurring cost was then calculated by identifying capital costs (i.e., depreciation, cost of capital, income tax) and operating expenses (e.g., maintenance, administration) associated with the investment. This is a standard process widely used in cost development.

- Non-recurring costs are typically incurred only as a result of a one-time event and do not recur as part of facility maintenance. Non-recurring costs were calculated for each unbundled element study. These costs were calculated using the following steps: (i) identify the work groups involved in providing the element and their respective work functions; (ii) identify the time required to complete each work function/activity; (iii) identify the labor costs for the personnel who typically perform each work function; and (iv) multiply the time required to perform these activities by the associated labor costs adjusted to represent the planning period of the cost study as appropriate.

In his rebuttal testimony in PUD 97-213 and 97-442, Mr. Moore testified concerning SWBT's unbundled element cost studies (e.g., UNE studies that are related to the categories of Unbundled Loop, Unbundled Cross Connects, and Unbundled Dedicated Transport).

AT&T's testimony generally assumed that SWBT must provide UNEs "as is" on a bundled basis. Mr. Moore identified this improper approach and demonstrates how SWBT's cost studies comply fully with applicable law.

I. UNBUNDLED LOOP STUDIES

A. Use of Loop Length Samples

Testimony – AT&T claims that SWBT's sampling of loop lengths injects bias towards overstatement of costs. Rebuttal – SWBT's cost model algorithm used to develop the cable portion of loop costs is, in general terms:

Length x Investment per Pair Foot = Investment per Pair (cable)

Correct modeling of loop length is important to overall loop investment calculation. Understating or overstating cable lengths by 5% would result in a much lower corresponding overall monthly loop cost understatement or overstatement because the cable facilities only represent a portion of the overall loop cost. However, such modeling is not an issue because AT&T agreed to use the SWBT loop model for this proceeding. SWBT correctly modeled the sampled loop lengths to calculate the investment per pair. The use of 1,000 foot bands, instead of actual lengths, has been the process used by SWBT for some time and was created to simplify the calculations that involve a great number of sampled loops. The difference between using the kilofoot band algorithms from the model and the actual sampled loop lengths would be approximately 1.2% in the monthly unbundled loop cost.

B. Loop Fill Factors

Testimony – Given competition, AT&T argues that SWBT cannot be expected to continue its current utilization level. Fill factors charge today's customers with tomorrow's demand, which violates LRIC principles. Liberty recommends distribution fill factors of 44% for urban and suburban areas, and 60% for rural areas. Rebuttal – Use of a fill factor does not result in charging today's customer with tomorrow's demand. SWBT is required under the Act to unbundle its existing network. This existing network has an actual existing utilization which is a product of total demand, consistent with TELRIC principles. Therefore, the total current demand and its relationship to current capacity serve as the basis for the current existing network fill factor. Fill factors are not new to service costing and have been utilized, at a minimum, in telecommunication cost studies for many years. Their legitimate use, however, is to calculate the cost for the "lumpiness" in capacity that is necessary to serve a quantity of demand. As SWBT witness Dr. Lehman illustrated in his rebuttal testimony, this lumpiness is a result of purchase size availability, area movements, and geographic constraints which require placement planning in order to have capacity ready when customers request service. As demand continues to grow, so will the additional placements that are needed to serve customers in a manner that complies with the Commission's minimum service standards. If AT&T's claim regarding fill factor were to be accepted, it would mean that SWBT's placement practices should meet demand exactly as it occurs. This is not an efficient practice. It would result in absolutely no recognition of quality of service considerations or the economies inherent in larger size cables because smaller cables always would be used to meet immediate demand. Liberty's recommendation does not reflect SWBT's actual fill. Dr. Lehman's rebuttal addresses the problems associated with Liberty's recommendations regarding fill.

C. Feeder Cable Investments

Testimony – AT&T states that SWBT's feeder cable costs do not reflect efficient cable sizing characteristics. SWBT inaccurately calculated the cost of the equipment that connects this feeder plant to the distribution plant. Certain cables should be reflected as feeder cables instead of identifying them as distribution in the study. SWBT has produced feeder termination costs that are excessive. Rebuttal – The loop cost study does not assume that there is a single cable serving a distribution area that never tapers as it approaches the central office. As these underground cables approach the central office, their size increases at taper points, and the cables become larger as they are serving more than one distribution area. The studies do, therefore, reflect the scale economies that were alleged to have been omitted. Liberty concluded that no refinements were essential.

D. Feeder - Distribution Interface Costs

Testimony – According to AT&T, application of a Feeder/Distribution Interface ("FDI") cost for every loop is inconsistent with SWBT witness Deere's depiction of its loop configuration. Furthermore, it is not an efficient practice in all circumstances. Rebuttal – AT&T's conclusions, based upon its references to the Deere testimony, are misleading. In Mr. Deere's direct testimony, he describes SWBT's current loop network with 25% of its facilities that do not utilize cross-connects in the field. Based upon Mr. Deere's discussions, there is a number less than 25% (considering the buildings and campuses) that reflects current conditions excluding FDIs and this number will decrease minimally in the short run. Assuming AT&T's own logic that the study should reflect Mr. Deere's depiction of the current network, this percentage is definitely not 25%, but something less, from a short term perspective. On the other hand, the cost study was conducted in such way that it assumed that, from a long term perspective, FDI placement on facilities represents the most efficient technological choice. There is no inconsistency, save perhaps the differing perspectives, short term/ long term, that were taken.

Testimony – Regarding the engineering principles associated with the use of FDIs, Liberty deferred to SWBT's judgment. However, in its discussion regarding the relationship between feeder fill and the FDI concept, Liberty indicated that its recommended change to the feeder fill factor was "a reasonable way to make these assumptions consistent." Rebuttal – While SWBT would agree that the use of the FDI concept would increase the utilization of feeder plant, on average, it has not been able to determine what fill adjustment would be appropriate. Nonetheless, the concept appears to be reasonable, even though Liberty's proposed fill factor is not reasonable, as discussed by SWBT witness Lehman in his rebuttal testimony.

E. Feeder Versus Distribution Cable Costs

Testimony – AT&T claims that 25% of the loop plant should be adjusted so that it reflects feeder investments only. Rebuttal – AT&T again has misused the Deere testimony to reach the wrong conclusions. It is not logical for AT&T to conclude that 25% of the loop facilities should take on the cost characteristics of feeder cable only. This flaw is especially apparent when

AT&T's witness (Zubkus) confirmed that the cable is not feeder-only, but rather feeder and distribution facilities that simply are "hardspliced." Although Mr. Deere did state that multi-customer buildings and campus complexes are often connected using only feeder plant, he was referring to the common F1 classification of that plant and not that it was purely feeder in nature. The AT&T witness certainly could not conclude that this arrangement represents 25% of the plant in Oklahoma. The main differences between feeder investments and distribution investments are the different sizes of cables that are used as well as the amount of fill associated with each type. It is simply incorrect for AT&T to apply feeder costs to 25% of SWBT's loops because it would result in an understatement of costs.

F. Premises Termination Costs ("NID")

Testimony – AT&T claims that SWBT's premises termination costs are unreasonable and should be revised. Rebuttal – When SWBT conducted the unbundled loop cost study, it was assumed that the best representation of a potential customer circuit was that of a single line arrangement. However, SWBT now would agree that some weighting, although certainly not AT&T's 50%, could be made to reflect both single and multi-premises termination arrangements. Using a 50% figure would suggest that there will be an equal amount of multiline and single line terminals which would not be realistic. A more appropriate approach would be to develop this weighting on a more current assessment of multi line to single line relationships. These changes should not have significant impact on loop costs. Liberty concurs.

G. Digital Loop Carrier Costs

Testimony – AT&T recommended that the loop cost study should be based upon Integrated Digital Loop Carrier ("IDLC"), in lieu of any use of Universal Digital Loop Carrier ("UDLC"). Rebuttal – This attempted use of the IDLC is totally inappropriate in this proceeding for several reasons. Since IDLC bundles the loop with the switch it should not be the object of a study on unbundled elements. IDLC is not designed to work in an application that is not bundled with the switch, (e.g., to a CLEC point of access). Including only IDLC investments will ignore necessary equipment, grossly understate the cost of an unbundled loop, and certainly not reflect how the loop will be bundled. Liberty concluded that the alternative to IDLC, or the UDLC which SWBT uses, is forward looking.

H. Supporting Structure Costs

Testimony – AT&T recommends that SWBT's supporting structure (pole and circuit) costs should be adjusted. It declares that SWBT should be required to "forecast future vendor utilization" and then remove costs from the loop studies to reflect what is "already being recovered elsewhere." AT&T bases its recommendations on the assertion that SWBT already is receiving revenues from lease arrangements and should project what those revenues will be in the future. Liberty asserted that SWBT's loop cost study ignored the effects of structure sharing with other utilities, but it concluded that such changes would not significantly affect final loop costs. Rebuttal – The costs for support structures have been accurately calculated. The pole and circuit costs

associated with an unbundled loop amount to around 5% of the overall loop costs. When this amount is compared with the amount of leasing that actually takes place in Oklahoma, .04% of conduit duct feet, and 2.42% of pole space, it is easy to see that any attempt to reduce loop costs would be meaningless. An increase by SWBT in the amount of leasing is not anticipated. AT&T offers no evidence suggesting that revenues from leasing will change to any degree whatsoever during the contract period. With respect to Liberty's statement, structure sharing was taken into account in the cost study.

I. Loop Studies

Testimony – AT&T, in part, used SWBT's loop cost study to make its changes, with the exception of replacing SWBT's LPVST (Loopvest) cost model with its own model to calculate cable investments. The specific changes that AT&T made were as follows: set distribution fill to 50%; reduced FDI investments to 25%; changed 25% of distribution investment to reflect feeder cable investment; set Premises Termination to 50% multi and 50% single; and used 100% IDLC for fiber facilities. Rebuttal – These changes to the unbundled 8dB loop recurring costs study are unjustified as earlier addressed. They result in a significant and invalid cost reduction over SWBT's results.

II. UNBUNDLED CROSS CONNECTS

Testimony – AT&T claims that the use of intermediate distributing frame ("IDF") is not necessary to extend unbundled loops to cages and is not necessary for any other unbundled arrangements. Rebuttal – The IDF is a necessary component for these scenarios. The cost studies at issue must reflect the design or risk prices that are non-compensatory. Liberty agrees.

Testimony – AT&T alleges that the cross connect investment already has been recovered in the elements that connect to them. AT&T bases this allegation on its claim that: (i) the 2-Wire analog cross connect to a multiplexer plug includes a plug investment for the same plug that is included in the Unbundled Multiplexing element study; and (ii) the investment for DSX-3 appearances are included in both the Entrance Facility element and the DS3 Cross Connect. Rebuttal – Service plugs are not included the stand alone multiplexing studies, as exemplified in the response to AT&T's data request, Item 17 (November 18, 1997). Liberty concurs that there is not a problem (although it still is in the process of obtaining some additional information on the subject). The rebuttal to AT&T's claim regarding the investment for DSX-3 appearances is in Part III, Unbundled Dedicated Transport, infra.

Testimony – AT&T claims that IDLC technology replaces the need for physical cross connects. Rebuttal – The use of IDLC is not appropriate for unbundling. Assuming however, that IDLC were to be used to provision unbundled loops, this would certainly not result in the exclusion of any physical cross connect arrangement.

III. UNBUNDLED DEDICATED TRANSPORT

A. Circuit Counts

Testimony – SWBT selectively eliminated a large portion of circuits, which resulted in fewer economies of scale and higher costs. **Rebuttal** – It is critical to ensure that the appropriate unbundled element is addressed when discussing the cost methods related to circuit quantities. There is but one UNE study that requires the use of circuit quantities to develop a weighted average cost. That UNE is called *Interoffice* Dedicated Transport and it requires such a weighting because there are numerous interoffice networks that are involved that have to be weighted. The circuit count of customer traffic is only used for weighting purposes, which AT&T classifies as a "weighting mechanism." The cost study for the unbundled dedicated interoffice transport element was conducted to match the definition of that rate element, which calls for interoffice dedicated transport circuits between SWBT's offices. A different UNE rate element, Entrance Facilities, would be charged for transport between SWBT's wire centers and other wire centers owned by AT&T or its affiliates. This is where AT&T used the incorrect approach. AT&T should not have included, in the weighting process for the interoffice study, private line circuits (they do not reflect dedicated transport type circuits), SWBT company official circuits (do not reflect potential customer traffic), and, of course, circuits that were not interoffice.

Testimony – AT&T claims that SWBT did not include message circuits in its weighting calculations because it did not pull circuits that are related to the message traffic used for local and intraLATA toll traffic. AT&T further states that SWBT only included private line type circuits and that inclusion of these circuits was incorrect. **Rebuttal** – These message circuits were included and private lines were excluded. SWBT has clarified this in subsequent data request responses.

Testimony – AT&T claims that there should be many more DS3s in the Oklahoma City area than what is included in the cost study. **Rebuttal** – AT&T's study shows approximately six times the quantity of message circuits for Oklahoma City than are in SWBT's interoffice study for weighting. AT&T's estimated number of circuits is based on flawed assumptions (e.g., circuits assumed to be DS3 are really DS1 or are circuits that should not be used for interoffice dedicated transport). By contrast, SWBT's study utilizes actual data from its records that include the true amount of circuits that are transported across its network as opposed to AT&T's unsupported derived calculation. Liberty concurs. It concluded that AT&T had yet proven SWBT wrong on this issue. Nevertheless, SWBT has maintained that it would be open to updating the analysis based upon current circuits and inventory. In addition, SWBT could agree to an independent review of the circuit data being utilized with such an update, which would be more than appropriate for verification.

B. Entrance Facilities and Loops

Testimony – AT&T claims that SWBT should not have split out the circuits between its offices and AT&T's offices into an Entrance Facility Study because these facilities are really the same as those that should already be in the "Dedicated Transport Cost Study." **Rebuttal** – As with the Unbundled Interoffice

Transport cost study, the Entrance Facility cost study matches the definition of the rate element from the interconnection agreement. There is no Unbundled Dedicated Transport element study; there is a Dedicated Transport Interoffice element study, a Dedicated Transport Entrance Facility element study, as well as other Dedicated Transport element studies, just as AT&T confirms. These studies match the rate elements mapped out in the interconnection agreement.

Testimony – AT&T states that, since Entrance Facilities really are defined as loops, then all that is needed is just a loop study, which should be an Entrance Facility element. **Rebuttal** – AT&T's approach is incorrect. Under the interconnection agreement, interoffice facilities run between SWBT offices, but Entrance facilities run between SWBT offices and AT&T facilities. Even though Entrance Facilities are sometimes configured with the same type of equipment that is required for Interoffice Transport, they should not be included in the same element study. Equipment types do not define UNEs. Moreover, UNE Dedicated Transport Entrance Facilities will not be configured in a central office ring diversity arrangement. SWBT will consider such arrangements under a Special Request Process. Therefore, no study is required, nor has one been conducted, for UNE Entrance Facilities with central office ring diversity.

Testimony – Liberty indicated that there are Entrance Facilities and that there should be a price for them. **Rebuttal** – The Entrance Facility component is a valid UNE as provided for in the interconnection agreement. However, as Mr. Sparling has described in his rebuttal testimony, SWBT's UNE Dedicated Transport Entrance Facility is not provided under a central office SONET ring diversity arrangement. Therefore, there should be no cost study at issue for such an arrangement.

Testimony – AT&T claimed that SWBT's use of stacked rings might possibly result in an inefficient network. **Rebuttal** – By law, SWBT is required to unbundle its existing network, regardless of how many stacked rings it might have in place.

C. Unbundled Transport Fill Factors

Testimony – AT&T asserts that the high speed side of the SONET equipment used for interoffice transport should reflect a utilization that is near capacity and that the low speed side, mainly plug-ins that can be put in or taken out easily as demand requires, should reflect a 100% utilization. Its rationale for the high speed fill approaching full utilization is that factors, such as "reserve" capacity, redundancy, administration, and peak demand planning, do not impact SONET equipment, and, therefore, such equipment can be planned to carry almost full capacity. The rationale for the low speed side plug-in fill of 100% is that plug-ins can be added and removed consistent with demand. AT&T recommends the use of objective fill factors. **Rebuttal** – AT&T's recommendations regarding SONET equipment fill are not consistent with SWBT's actual fill levels. Nor are they realistic. As Mr. Deere describes in his rebuttal testimony, the high speed side of SONET equipment is, on average, seldom at or near capacity levels. SWBT's actual fill for this type of equipment is substantially less than near capacity. Low speed side plug-in units, although modular in nature, must come from a central stock. The actual fill for such plug-in stocking is 92%. Although this plug-in fill is not reflected in the currently filed cost study,

SWBT has agreed that any revised unbundled interoffice transport study should include a new and separate factor for SONET plug-ins, (e.g., low speed service plug-in equipment). The use of stacked rings does not result in the exaggerated fill levels for interoffice transport described by AT&T. The overall fill for the equipment across those rings could be any number, and furthermore, only would represent that one area, not the network on average. Objective fill factors are not appropriate for use in a TELRIC cost analysis. A TELRIC analysis for UNEs should include a reasonable projection of actual utilization. This is also consistent with the principle of attributing shared costs and spare capacity to the greatest extent, which, as Dr. Lehman has described in his direct testimony, is consistent with TELRIC principles. In TELRIC studies, using objective fill factors as surrogates, when actuals are not obtainable, typically will result in conservatively lower cost estimates than what is required. However, on average for the different types of network components, the use of actual fill is consistent with TELRIC principles.

Testimony – Liberty claimed that actual fill factors are only appropriate in a TELRIC study if SWBT could demonstrate that such fills are "optimal," which it did not. Liberty also recommended that SWBT use objective fill factors. Rebuttal – Actual fills are appropriate in a TELRIC study and represent a reasonable projection of actual UNE component utilization. In addition, there is no evidence to support that SWBT will achieve such objective fills for electronics and fiber, which is a valid question for this exercise.

D. Other Transport Issues

Testimony – AT&T witness Klick asserts that SWBT's ring designs are inefficient in that the smaller rings are not designed properly, which drives up the cost of transport. Rebuttal – Mr. Klick references purported excerpts from AT&T witness Turner's testimony using "straight forward analyses" to determine optimum ring sizes. However, no reference is made by Mr. Turner that address any such "small ring" issue or analyses. Furthermore, the costs developed for Unbundled Dedicated Transport are based upon SWBT's existing network which it is required to unbundle.

Testimony – AT&T claims that SWBT's transport studies should be adjusted to reflect for the rounding up of the rate of the next whole mile. If this is not done, AT&T will be required to overpay for unbundled interoffice transport. Rebuttal – The agreement between SWBT and AT&T was that the mileage rate would be rounded to the next whole mile. SWBT's cost model reflects the unbundled rate element, in essence, this per-mile structure. Liberty saw no reason to "nullify" the AT&T/SWBT agreement. Nor did it make "rounding-up" an issue in this proceeding.

Testimony – AT&T indicated that SWBT inconsistently multiplied the DS3 count by 28 for the DS3 interzone elements. Rebuttal – AT&T is correct in this regard and the study would need to be re-weighted in this zone to be consistent with the weighting conducted in other zones. However, there is no reason to make any revisions at this juncture because it likely would have only a minimal impact on DS3 costs.

E. Unbundled DCS Costs

Testimony – AT&T asserted that the DCS costs have been calculated incorrectly by applying an incorrect capacity for the DS1 calculation. In addition, it contends that the multiplexing included in the DCS cost calculations also have included an incorrect capacity. **Rebuttal** – With regard to the DSC DS1 capacity, AT&T is correct and the study should have utilized a different capacity of 28,672 instead of 7,168. However, the assertion that the multiplexing component of the DSC study should utilize a large capacity is incorrect, as Mr. Deere discusses in his rebuttal testimony. Liberty indicated that the studies should be conducted using the appropriate values.

F. Unbundled Multiplexing Costs

Testimony – AT&T asserts that SWBT's study has double counted power and sales tax expenses through the application of cost factors in two places instead of one. AT&T contends that, since its intention is to purchase the whole capacity of the multiplexer, then the use of a fill factor for this element that is anything but 100% is inappropriate. Liberty takes a fairly similar position regarding the multiplexer by requesting an additional option that contemplates full purchase. **Rebuttal** – AT&T is correct in asserting that the Multiplexing study double counts the power and sales tax expenses. This error would need to be corrected. The cost study has been conducted under the assumption that AT&T will not be purchasing the whole capacity of the Multiplexer. To date, AT&T negotiators have not requested this element on a total capacity basis. If a multiplexing study were to be conducted under the presumption that the CLEC would purchase the total capacity, then simply changing the fill factor would not be enough. The investment basis, currently a portion of the multiplexer, also would have to be revised to the total amount. Furthermore, the concept of purchasing this element at 100% is only valid if the UNE is available on that basis. Therefore, the preparation of an additional study only would be applicable to the extent that there is truly an additional element being offered as described.

G. Unbundled Transport Cross Connects

Testimony – AT&T asserts that SWBT has included, in its Dedicated Transport Cost Study, the investment for "both ends at a DSX-3," which is the panel at which jumpers are run to connect DS3 circuits to a connecting component. Doing so recovers the cost for the DSX-3 arrangements and therefore there is no need to include these investments in any DS3 Transport cross connect element. **Rebuttal** – AT&T is correct that "both ends" of the DSX-3 are included in the Entrance Facility Element (or what it describes as the Dedicated Transport Cost Study). However, to conclude that, "in every case, the recurring cost associated with equipment is duplicative" is not valid. The conclusion that should be drawn is that SWBT's Entrance Facility study, if modified for this small change, could remove one of the DSX-3 appearances. The conclusion that should not be drawn is to remove the cross connect element in its entirety, as AT&T infers, because doing so will not reflect the true arrangement and will result in unrecovered investment in the study.

IV. ADDITIONAL NONRECURRING ISSUES

A. Different Loop Technologies

Testimony – AT&T asserts that IDLC-303 provides the ability to cross connect loops on a virtual basis, requiring no physical cross connect. **Rebuttal** – This type of switch-integrated technology is not efficient or appropriate for unbundled loop provisioning. It is not to be used for unbundling.

Testimony – AT&T witness Segura claims that an "electronic cross connect" resulting from IDLC is appropriate for loop and port combinations. **Rebuttal** – Mr. Segura states that the "most efficient and non-discriminatory method to provision a loop and port combination is to treat the new entrant the exact same way as SWBT provisions its own customers; that being, [an] electronic cross connect." What is apparent is that the main reason for AT&T's choice of such an integrated technology is to obtain network elements "as is." Cross connects that should be at issue herein are unbundled cross connects and not those that have anything to do with combining any elements. Liberty recommends a 75/25 split between UDLC and IDLC, which, for the same reasons, is unjustified.

Testimony – AT&T witness Segura alleges that SWBT's use of an intermediate distributing frame to connect to a collocation presence is unnecessary and instead recommends the use of a single frame. **Rebuttal** – As Mr. Deere describes in his rebuttal testimony, this is the efficient choice of planning for the connection to the CLEC. The study should reflect the configuration that will be used. Liberty agrees.

Testimony – AT&T alleges that SWBT was not able to establish what type of equipment was being provided to accomplish conditioning, and therefore, the cost of this element should be eliminated. **Rebuttal** – Mr. Segura confirmed that there is some type of equipment that is required to accomplish this conditioning but yet elects to eliminate any associated cost. The equipment that is identified in this study is called STE (Station Terminating Equipment) and the purchase price for this equipment serves as the basis for the recurring cost development for dB Loss Conditioning.

Testimony – AT&T asserts that the nonrecurring costs for transport did not include DCS and EDSX equipment combinations that would allow for remote installations. Liberty agrees. **Rebuttal** – As Mr. Deere has described in his rebuttal testimony, these are not the appropriate arrangements to be considered. There simply is not any support that AT&T systems should be used in lieu of those used by SWBT.

B. Unbundled Loops and Design Circuits

Testimony – AT&T has claimed that SWBT has classified loops as "design" circuits and that it, therefore, has included manual costs that are not necessary. Liberty concurs. **Rebuttal** – AT&T has reiterated in numerous cases that SWBT classifies its unbundled loops as design loops, which is a complete mischaracterization of what is really at issue. The cost studies in this proceeding do not treat unbundled loops, in this case 2-Wire analog loops, as true design circuits, per se. What the studies do reflect, however, is that the

processes and systems that are used to provision the unbundled loop are different than those used for POTS service. Again, as Mr. Deere describes in his rebuttal testimony, these systems are required because unbundled loops cannot utilize the same systems as used for POTS. The pure "design" activity that is performed on the 2-Wire analog 8dB loop, which generally includes the determination of equipment needs, is less than .2 minutes, as opposed to a DS1 circuit that requires substantial design work. Thus, it is really a mischaracterization to infer that this type of loop is full of unnecessary design work and is a "designed service."

C. Where Nonrecurring Functions Are Included

Testimony – AT&T implies that the loop cost study duplicates service order costs that are in the Service Order study. Rebuttal – This is an incorrect assumption. Spreadsheets, which are part of the study, support SWBT's position. The service order activity is simply not duplicative in the loop cost study. Service order "related" costs included in the loop study are appropriately accounted for in that study.

Testimony – AT&T implies that tariff charges, or Central Office Access ("COA") charges, have been applied in this proceeding. Rebuttal – This is not the case. It is most likely that AT&T witness Segura is referring to some other proceeding in another jurisdiction where some separate tariff charge may have been applicable.

D. Installation and Maintenance

Testimony – AT&T claims that I&M functions should not be attributed to 8dB loops because they are not necessary for Total Service Resale and loop port combinations. Rebuttal – UNE combining or reselling of tariffed services should not be the subject of unbundled element cost calculations. The cost characteristics of I&M functions and their relationship to resale or combining has not been presented in this proceeding and is not at issue. In addition, Mr. Segura later confirms that I&M activity is required.

Testimony – AT&T witness Segura also claims that, since field plant is already in place, then there will be no activity required for I&M "when the end user becomes a customer of the CLEC." Rebuttal – This is a duplication of Mr. Segura's previous argument involving conversion or resale scenarios. On the contrary, the cost study should, and does, reflect a reality that field work will be required a certain percentage of the time.

E. Support For Nonrecurring Time Estimates

Testimony – AT&T witness Segura contends that there is a lack of information supporting SWBT's cost studies (e.g., no record of what information was provided to the individuals who were involved in estimating the time spent on the various provisioning activities). Liberty had similar concerns. Rebuttal – The individuals that lend assistance on these time estimates are, in many cases, given requests for specific time estimates. Requests and replies in other areas also have been documented. In addition, these individuals are members of SWBT product teams that address the requirements for the services and

elements for which studies are required. SWBT forwarded AT&T considerable nonrecurring input support for its cost studies. SWBT provided AT&T with documentation of activity resources and times. This level of detail is in stark contrast to the AT&T process used to analyze SWBT's proposal, which was developed by few individuals, and communicated in a haphazard, mostly verbal, manner. In addition, Mr. Segura indicated that many of AT&T's numbers actually are default values that reflect an unidentified national average.

F. Time Estimate Levels

Testimony – AT&T claims that SWBT's loop cost study includes travel to the central office in all cases. Rebuttal – In SWBT's unbundled loop cost study, central office trip costs reflect a staffed and non-staffed scenario. SWBT therefore does not assume that a central office trip is required every time. The SWBT study only recognizes the probability (less that 100%) that travel time will be required.

Testimony – SWBT, according to AT&T, unnecessarily includes the cost for test shoes in its cross connect studies. Rebuttal – Nowhere in the cross connect studies filed in this proceeding has the cost for any such "shoes" been included.

Testimony – AT&T complains that SWBT does not include the appropriate labor rates for cross connect activities in its studies. A Craft 1 employee labor rate should be used in the study to calculate the activity cost instead of a frame technician's labor rate. Rebuttal – Frame technicians include several types of specific technician classification. For example, Frame Attendants are used to conduct work at the frame and are classified as Craft 2. However, Communications Technicians are also utilized at the frame, as described by Mr. Deere in his rebuttal testimony. These technicians utilize a Craft 1 assignment.

Testimony – AT&T claims that SWBT's Special Service I&M technicians are paid a higher wage rate than their counterparts in I&M. Rebuttal – By contract, both Special Service (Systems Technician) and Customer Service Technicians are paid at the same labor rate which is a Group 1 craft.

Testimony – AT&T claims that SWBT's studies should be revised to reflect 15 minute increments instead of 30 minute increments for travel time. Rebuttal – The 30 minute travel time is supported and reflects what is required on average. In addition, AT&T did not even utilize 15 minutes in its cost study, but instead applied its 2% to that figure.

G. Disconnect Costs

Testimony – AT&T states that nonrecurring disconnect costs should be modeled separately. Liberty agrees. Rebuttal – Outside of addressing how disconnects are priced, Liberty's basis was one that considered combinations and not the unbundled elements that are at issue in this proceeding. Decisions on disconnect activities included in unbundled elements should not be made based upon arguments that are irrelevant to unbundling.